

A-670

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Date June 6, 1945

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Subject Discharge of Waste from 706-D Building

Copy #1 - Leverett

By R. B. Briggs

To M. C. Leverett

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To M. C. Leverett

DATE 6/6/45

FROM R. B. Briggs

DEPARTMENT Technical, Director

DEPARTMENT Technical, Section II

IN RE: Discharge of Waste from 706-D Building

CLASSIFICATION CANCELLED

DATE 2/24/66

For The Atomic Energy Commission

W. R. Conner
Chief, Declassification Branch

Due to the large amount of active waste discharged from 706-D Building during the first production run, certain difficulties have arisen in the operation of the 206 Area which will require the institution of some changes in procedure during future runs. Addition of calcium chloride to the waste tanks is giving little or no decontamination with some 706-D wastes, and the decontamination factor obtained in the Settling Basin is less than 4 at the present time. The present procedure of permitting W5 to overflow to W6 while jetting continuously from W6 is resulting in the discharge of some materials of relatively short half-lives, the activity of which could be reduced by proper hold-up in W5, and at times in the discharge of very active material from W6 which could be decontaminated in W5 if sufficient time were available.

Experience of the past two weeks has shown that 10,000 gal/day of material can be discharged from W6 without difficulty if the activity is no greater than 400,000 disintegrations/cc/min. Because some decontamination is achieved by hold-up in the tanks, and because the permissible activity of the outlet from the Settling Basin has not been exceeded at the given discharge rate, it is believed that an average of 10 to 15 curies per day can be received from 706-D operations. The total volume of liquid discharged should be kept below 10,000 gal/day and lower flows should be used, if possible, to permit longer hold-up times.

Since the main source of active material discharged to W11 and then to W5 has been process losses of 706-D product, it is requested that all process waste solutions be discharged to W9. This discharge should be direct, if possible, but when not possible, arrangements can be made for the 206 Area operators to handle the material thru W11. It is understood that the total volume of the product wastes is small (20% or less) compared to the volume of neutralized metal waste now discharged to W9, so there will be a small reduction in the number of runs which can be made without exceeding the capacity of the metal waste tanks.

In the 206 Area it is planned to revise the discharge procedure by jetting from W5 to W6 and from W6 to the Settling Basin to give better control over decontamination. The dip pipes on the jets from both tanks will be shortened so solids will not be discharged from either tank.

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M. C. Leverett

W5 will be scavenged continuously and the supernatant will be jettied to W6 only on days when the liquid is near the overflow level, and when the amount of activity entering the tank is low. To make this procedure most effective it will be necessary for the 206 Area supervisor to have a daily forecast of the amount of activity which will be discharged to W11 during each shift. The forecast can be given to the area operator with the waste volume forecast on the 8-4 shift.

When the present situation has cleared, it may be possible to send more of the waste solutions to W5; thus, conserving the limited amount of space (87,000 gallons on 6/6/45) in W9. The procedures outlined above will be revised at that time.

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